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(71) Applicant: **MATSUSHITA ELECTRIC IND CO LTD**

(72) Inventor: **OKAMURA YASUSHI**
RIN TOSHIRO
TAKAGI KOSUKE

(54) **MACHINE TOOL**

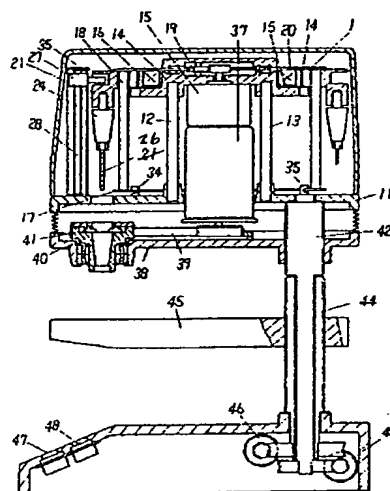
(57) Abstract:

PURPOSE: To automatically turn and process a work at a suitable speed by taking out data from a memory means storing both the revolution speed data and the cutting speed data by both a work bit selection and work material specifying means and controlling the motor.

CONSTITUTION: When the diameter of a bore opened is inputted, a motor 15 is turned and the specified chuck holder 21 is moved to the position opposed to a chuck carrier 27, the carrier 27 is lowered, the chuck 24 enters into a spindle 40, and the motor 37 is instantaneously turned so that a pawl 41 is fastened and inhibited to be pulled out. A table lifting and lowering motor 46 is turned until a drill blade 26 makes contact with the upper face of a work. When the quantity of the movement is stored, the motor 46 is reversed at the specified speed. When the work material data is inputted, the revolution speed and the cutting speed data corresponding to the diameter of a bore is read out and when the quantity of the movement is inputted, the drill blade 26 is turned by the motor 37, lowered by data of the quantity of the cutting to make cutting and after the cutting, the motor 37 is instantaneously reversed to open the pawl 41 so that the chuck holder 21

is lowered until making connection with the chuck 24. The holder 21 is then raised and adsorbed by the upper rotary blade 16 again.

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CO LTD

(22)Date of filing : 01.07.1988

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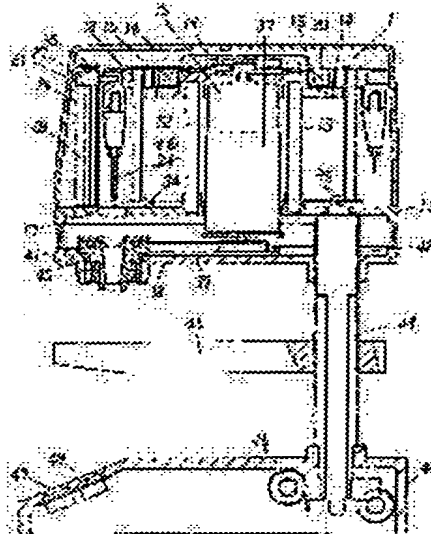
(54) MACHINE TOOL

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LEGAL STATUS

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[Date of requesting appeal against examiner's decision of rejection]

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特開平2-15904 (4)

この状態でチャックホルダー21が下降し、チャックホルダー21とチャック装置24が連結されると、チャックキャリア27が上昇してチャックホルダー21を再び上部回転板16に吸着させる。これによって一連の動作を終了する。

発明の効果

以上のように本発明は、加工ビットの選択手段と、工作物の材質を指定する手段と、加工ビットの種類および工作物の材質に応じた加工ビットの回転速度および切り込み速度を示すデータの格納手段を有し、選択された加工ビットおよび指定された材質に応じてデータの格納手段より取り出したデータに基づいて加工ビットの駆動モータを制御する手段を設けたものであり、加工ビットの種類および工作物の材質に関するデータを人力すると、加工ビットの種類および工作物の材質に応じて適切な加工ビットの回転速度および切り込み速度で工作物が加工されることになり、工作物の材質や切削刃の種類を指定することによって適切な回転速度および切り込み速度で工作物の加工を行

なうことができるため、工作物の切削加工に不慣れた使用者が作業を行なっても失敗することがないという効果を実現するものである。

4. 図面の簡単な説明

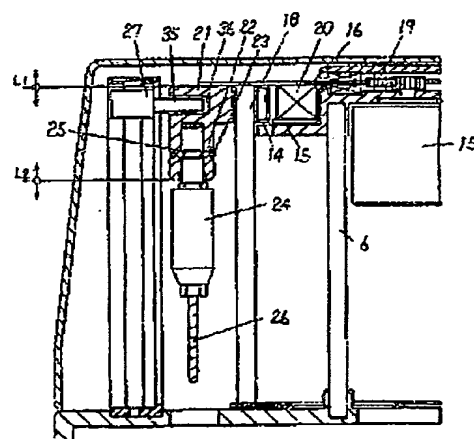
第1図は本発明の工作機の一実施例に於ける側断面図、第2図は同要部拡大断面図、第3図は同要部拡大斜視図、第4図は同図路ブロック図、第5図は同動作を示すフローチャート、第6図はドリル刃の径と被加工物とドリル刃の回転速度および切削速度の関係を示したグラフ、第7図は従来のボール盤の側断面図である。

11…下部シャーシ 12, 13…支持棒
14…上部シャーシ 15…工具切り換えモータ
16…上部回転板 17…下部回転板
19…ギヤ 20…マグネット
21…チャックホルダー 22…鋼球
23…Oリング 24…チャック装置
25…溝 26…ドリル刃
27…チャックキャリア 28, 29…シャフト
30…スクリーシャフト 31…ブリー

32…ベルト 33…工具移動モータ
34…ブリー 35…突起 36…凹部
37…メインモータ 38…スピンドルテーブル
39…ベルト 40…スピンドル
41…チャック爪 42…スクリーシャフト
43…工具昇降モータ 44…スクリーパイプ
45…テーブル 46…テーブル昇降モータ
47…操作スイッチ 48…表示部
49…CPU 50～54…モータドライバ
55…ROM 56…RAM

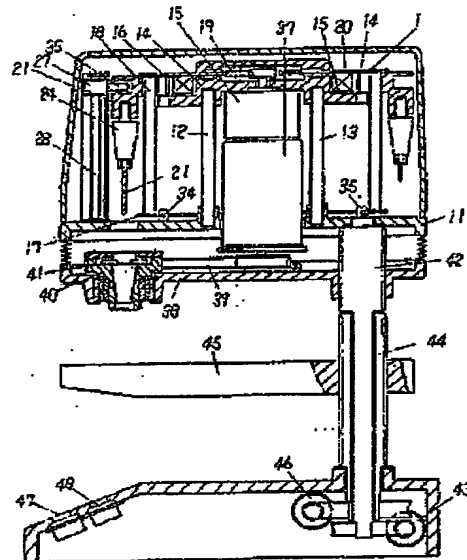
代理人の氏名 弁護士 栗野重孝 ほか1名

第2図

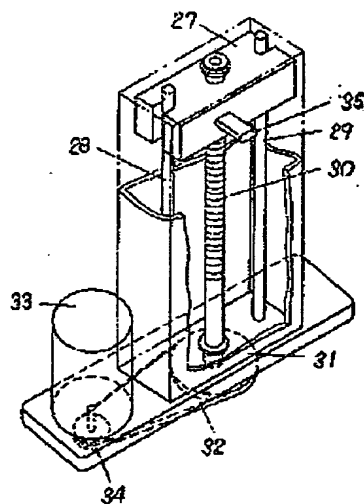


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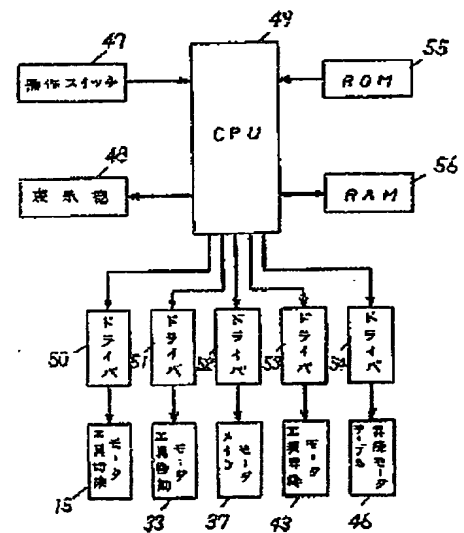
第 1 図



第 3 図

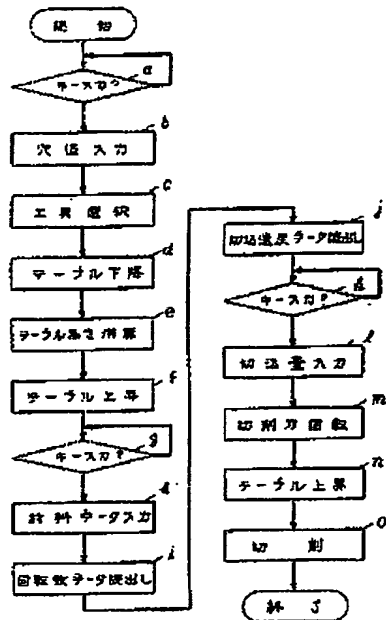


第 4 図

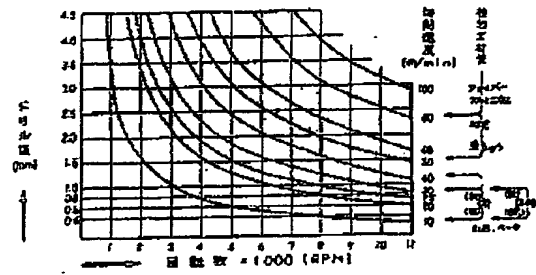


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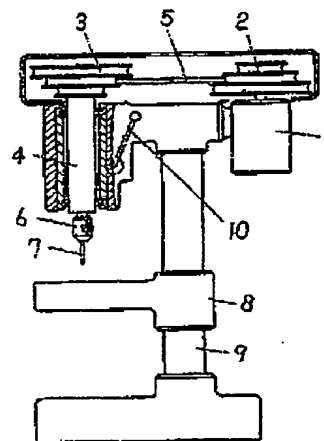
第 5 章



興 昌 興

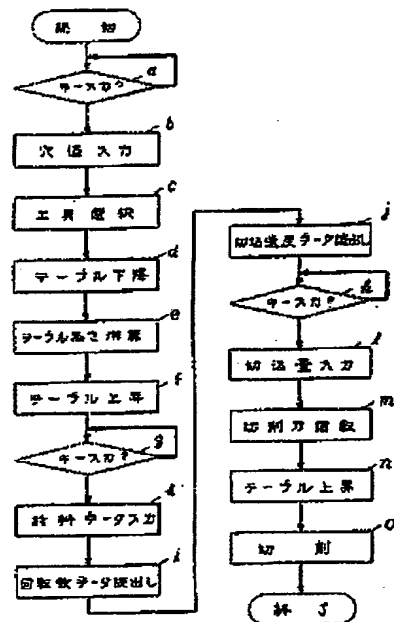


第 7 區

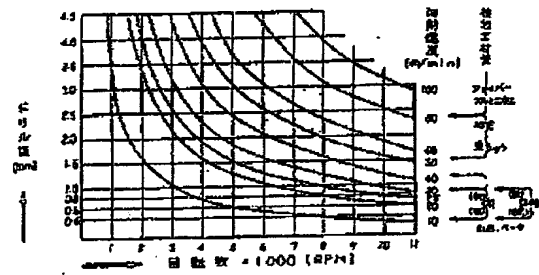


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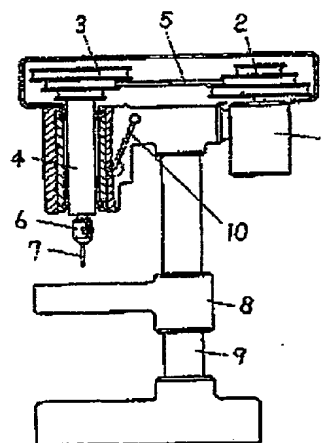
第 5 図



第 6 図



第 7 図



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